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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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WENDEROTH LIND & PONACK LLP
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WASHINGTON, DC 20006

EXAMINER

TRAN, TONGOC

ART UNIT	PAPER NUMBER
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2134

70

DATE MAILED: 03/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/400,986

Applicant(s)

MURAKAMI ET AL.

Examiner

Tongoc Tran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49, 51 and 52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-49, 51 and 52 is/are rejected.
- 7) ☒ Claim(s) 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is in response to applicants' amendment filed on 12/30/2003. Claims 1, 4, 9-11, 13, 15, 17-20, 22-28, 30, 32-39, 41-49 are amended. Claim 50 is cancelled. Claims 51-52 are newly amended.

Response to Arguments

2. Applicants contend that the cited prior art, Maeda teach information to prohibit or not permit digital copying but does not include an identifier which shows whether a second recording area includes a third section. Examiner disagrees. Maeda discloses a second recording area (TOC-table of content, where it includes a subcode to identify the type of information and the sector number, and information to prohibit or permit digital copying, for example, col. 1, lines 38-57). Applicants further stated that Maeda does not disclose that a part of additional data is inhibited to be outputted from recording and reproducing apparatus. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "a part of additional data is inhibited to be outputted from the recording and reproducing apparatus") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim Rejections - 35 USC § 102

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3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1-5, 7-8, 10-12, 16, 22-24, 26-29, 31, 36, 39, 42 and 49 are rejected under 35 U.S.C. 102(e) as being anticipated by Maeda et al. (U.S. Patent No. 5,764,607).

In respect to claims 1, 22, 27, 36 and 39, Maeda discloses an information recording and reproduction method and apparatus uses a recording medium that contains information which prohibits digital copying (see title and abstract), said comprising:

"A first recording area for recording contents data and data for recording and reproducing the contents data (see Fig. 7, item 100c, col. 1, lines 38-42); and

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a second recording area for recording secondary data on the contents recorded in the first recording area (see Fig. 7, item 100b, col. 1, lines 42-45, Table of Content (TOC))

wherein said second recording area comprises:

a first section for recording control data on the second recording area (see col. 1, lines 45-48, music information, track and sector);

a second section for recording data not to be inhibited from being outputted from a recording and reproducing apparatus for the optical disk (see col. 1, lines 48-49, information of permit digital copy); and

a third section for recording data to be inhibited to be outputted from the recording and reproducing apparatus for the optical disk (see col. 1, lines 48-49, information to prohibit digital copy);

wherein the control data recording in the first section includes an identifier which shows whether said second recording area includes said third section" (see Fig. 1, lines 54-57, subcode).

In respect to claim 2-5, 7-8 and 10 and 31, Maeda discloses all the limitations as applied to claim 1 above. Maeda further discloses:

"data recorded in second recording area are strip marks longer in radial direction and cannot be overwritten after they are written once" (Fig. 7, item 100B, stripe mark);

"data for recording and reproducing the contents data in said first recording area include an identifier which shows whether information is recorded in said second recording area" (see col. 1, lines 54-57 subcode);

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"identifier which shows whether information is recorded in said second recording area is recorded in said first section in said second recording area" (see col. 1, lines 54-56 subcode);

"data for recording and reproducing the contents data in said first recording area include an identifier which shows whether information is recorded additionally in said second recording area and an amount of recorded data in said second recording data" (col. 1, lines 38-56);

"disk identifier different for each optical disk is recorded in said second recording area" (col. 6, lines 6-13);

"said second recording area is provided at a predetermined area in an inner peripheral section" (col. 4, lines 35-41);

"said recording area is an area to which information can be written (Fig. 7, item 100c, col. 1, lines 38-42);

In respect to claims 11-12 and 16, Maeda discloses all the limitations as applied to claims 10 further discloses: "said recording area has said recording layer to which data can be recorded with an optical device (col. 4, lines 59-65);

"said first recording area has said recording layer to which data can be recorded with an optical device a plurality of times", "said recording layer comprises a plurality of layered magnetic films" (col. 1, lines 65-67, magneto-optical disk).

Said recording layer comprises a plurality of layered magnetic films (see col. 1, lines 65-67, magneto-optical disk).

In respect to claims 23-24 and 26-29, Maeda discloses all the limitations of claim 22 and further discloses:

“said first recording area according to reproduction conditions included in the data to be inhibited to be outputted when the data reproduced from said second recording area are determined to include the data to be inhibited to be outputted (see Fig. 6, item s34, col. 1, lines 48-49);

“reproducing data from said first recording area (see Fig. 7, item 100c, col. 1, lines 38-42); and “detecting an identifier which show whether data exist in said second recording area, in the data reproduced from said first recording area wherein said step of reproducing data from said second reproducing area is performed only the identifier is detected”(see Fig. 6, item s34, col. 1, lines 42-57).

“said second reproducing section reproduces data in the second recording area according to a detection data in the second recording data according to a detection signal received by a photodetector provided in said optical head (see col. 6, lines 1-14).

In respect to claim 42, Maeda discloses all the limitations as applied to claim 39, further discloses:

“a frequency converter which converts reproduced signals from the first recording area from time axis signals to frequency axis signals to provide first conversion signals (see col. 5, lines 36-43);

a mixer which adds or superposes the first conversion signals reproduced from the second recording area to provide mixed signals (see col. 5, lines 28-42);

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a reverse frequency axis signals to time axis signals to provide second conversion signals (see col. 28-42).

In respect to claim 49, Maeda discloses:

"a reproducing apparatus for reproducing contents from an optical disk having at least a recording layer for recording information, said recording layer disk comprising a first recording area for recording contents data and data for recording and reproducing the contents data, and a second recording area for recording secondary data on the contents recorded in the first recording area, the secondary data including a disk identification inherent to each optical disk (see Fig. 7, items 100b and 100c and col. 1, lines 38-58) the apparatus comprising:

an optical head which reproduces information from the optical disk with an optical spot (see col. 4, lines 59-64);

a first reproducing section which reproduces data with said optical head from the first recording area (see col. 6, lines 1-14); and

a second reproducing section which reproduces data with said optical head from the second recording area" (see col. 6, lines 1-14).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claim 17, 40-41, 44-45 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda (U.S. Patent No. 5,764,607).

In respect to claim 17, Maeda discloses all the limitation of claim 10 but does not explicitly disclose said recording layer comprises a recording layer made of Ge-Sb-Te alloy. However, Ge-Sb-Te is a widely used thin film material for optical disk. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the thin film material of Ge-Sb-Te for its durability.

In respect to claims 40-41, 44-45, Maeda discloses all the limitation of claims 39 and 43. Maeda does not teach the use of watermarks generated by using disk identification recorded in recording area.

However, using watermark to record data is old and well known. It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement this feature for more secure illegal copy prevention since image of protected data is embedded into the optical disk.

In response to claim 51, Maeda discloses the apparatus according to claim 49, wherein said second reproducing section comprises a device operable to suppress high frequency component with a cut-off frequency of 1.2 MHz and to decode the secondary data after suppressing high frequency component. However, using the maximum of frequency at 1.2 MHz is widely used in optical disk reproduction. It would have been obvious to one of ordinary skill in the art at the time the invention was made to control the frequency component at 1.2 MHz for more efficiency.

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5. Claims 6, 9, 25, 34-35, 37-38, 43, 46 and 47-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda (U.S. Patent No. 5,764,607) and Sako et al. (U.S. Patent No. 5,802,174).

In respect to claims 6, Maeda discloses all the limitations as applied to claim 1. Maeda does not disclose "ciphered data are recorded in said third section in said second recording data". However, Sako discloses each of the encrypted data and the encrypting key data is recorded in each of the first and second recording layer (see col. 3, lines 4-12). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the ciphered data as taught by Sako to provide a secure data protection to prevent illegal copy.

In respect to claim 9, Maeda discloses all the limitations as applied to claim 1. Maeda does not explicitly disclose but Sako discloses wherein data of said first recording area comprises data stored in the recording layer as uneven pits in a reflection film, wherein data of said first recording area comprises partially removed strip marks, of said reflection film, longer in the radio direction" (see col. 4, lines 12-22, pit type recording). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the recording area in a pit type recording as taught by Sako so that duplication of the data is better protected.

In respect to claims 25, Maeda discloses all the limitations as applied to claim 22. However, Maeda does not disclose but Sako discloses after determine the data is not inhibited, the data is deciphered and decoded (see col. 3, lines 18-21). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was

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made to include a deciphered device to deciphered data taught by Sako to better secure data from illegal recording.

In respect to claims 30, 32-34, 37 Maeda discloses all the limitation as applied to claim 27. Maeda does not disclose but Sako discloses using a cipher decoder to cipher data in first and second recording layer and safety mode is set so deciphering is perform only when prohibit output is cancelled (see col. 3, lines 4-12). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a ciphered coder to cipher data taught by Sako to ensure a secure and legitimate recording.

Furthermore, Maeda does not discloses a key generator operate a secret key for decoding the contents data in the first recording area. However, Sako discloses a key generator to generate a key data based on the encrypting key data to perform decoding of content data (see col. 3, lines 13-24). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the teaching of Sako to provide the key generator to perform the decoding of the content data with the teaching of Maeda's subcode identifying the type of data and section location for more efficiency.

In addition, Maeda does not teach the use of authentication before data are deciphered. However, verifying passwords before data is deciphered is old and well known. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide authentication to better ensure that the disk is authorized to be duplicated by the rightful owner.

In respect to claims 35 and 38, Maeda disclose all the limitation as applied to claim 27 and further discloses a transmission section which transmit ciphered data to an external apparatus (see Fig. 1a-2 item 13).

In respect to claims 43 and 46, Maeda discloses a recording and reproducing apparatus for recording and reproducing contents from an optical disk "an optical head which reproduces information from the optical disk with an optical spot" (Fig. 1a-1, item 3, col. 4, lines 59-63), "having at least a recording layer for recording information, said recording layer disk comprising a first recording area for recording contents data and data for recording area for recording area for recording secondary data on the contents recorded in the first recording area (see Fig. 7, items 100b and 100c, col. 1, lines 38-57). Maeda does not disclose but Sako discloses said apparatus comprising:

a cipher device which ciphers the contents based on data including information inherent to a disk, the information having been recorded in the second recording area (see Fig. 1 and 3);

a recording section which records the contents ciphered by said cipher device in the first recording area in the optical disk (see Fig. 3, item s4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a cipher device to enciphered data taught in the recording optical layer taught by to secure data from illegal recording.

In respect to claims 47-48, Maeda and Sako disclose all the limitations as applied to claim 46. Furthermore, Maeda discloses the device utilize demodulation and decoder in the reproducing process but does not explicitly discloses cut-off frequency at 1.2

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MHz. However, using the maximum of frequency at 1.2 MHz is widely used in optical disk reproduction. It would have been obvious to one of ordinary skill in the art at the time the invention was made to control the frequency component at 1.2 MHz for more efficiency.

6. Claims 13-14, 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et al. (U.S. Patent No. 5,764,607) and Taki et al. (U.S. Patent No. 5,089,358).

In respect to claims 13 and 18, Maeda discloses the limitations as applied to claim 10 above. Maeda does not explicitly disclose:

“said recording layer comprises an organic layer changeable between two states detectable optically (col. 13, lines 57-63);

“said recording layer including a film reversibly changeable between two optically detectable states wherein an amount of reflection light from said first recording area is different from said second recording area” (col. 13, lines 57-63).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the changeable between two optically detectable states taught by Taki for the benefit of improving the memory capacity of the optical disk.

In respect to claims 14, Maeda discloses an optical disk as applied in claim 12. Maeda does not explicitly disclose “said recording layer comprises a magnetic layer having perpendicular magnetic anisotropy in a film normal direction”. However, Taki teaches the said limitation (see col. 21, lines 20-30). It would have been obvious to on

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of ordinary skill in the art at the time the invention was implement a magnetic layer having perpendicular magnetic anisotropy taught by Taki in order to obtain a more stable recording characteristic because of uniform thickness and flat surface and thus improve optical recording.

In respect to claim 19, Maeda and Taki disclose an optical disk with all the limitations as applied to claim 18. Taki further discloses "said recording layer is reversibly changeable between crystalline and amorphous states according to conditions of a light for illuminating said recording layer" (see col. 13, lines 57-62).

In respect to claim 20-21, Maeda and Taki disclose an optical disk with all the limitations as applied to claim 19. However, Both Maeda and Taki do not explicitly teach the use of barcode in the recording layer.

However, recording barcode in recording layer in optical disk is old and well known. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize barcode as identification for optical disk to distinguish each disk from one another.

7. Claim 52 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et al. (U.S. Patent No. 5,764,607) and Tanaka et al. (U.S. Patent No. 6,618,335 hereinafter Tanaka).

In respect to claim 52, Maeda discloses the apparatus according to claim 51. Maeda does not disclose but Tanaka discloses wherein said device is operable to perform phase-encode return-to-zero decoding (Tanaka, col. 11, line 50-col. 12, line 38). It would have been obvious to one of ordinary skill in the art at the time the

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invention was made to incorporate the teaching of Maeda's copyright protection recording system with Tanaka's phase-encoding return-to-zero decoding method for a more secure encoding process.

Allowable Subject Matter

8. Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

In respect to claim 15, the cited prior art alone or in combination does not explicitly teach the optical disk according to claim 14, wherein said second recording area comprises barcode portions and portions between the barcode portions having smaller perpendicular magnetic anisotropy along film normal direction than said barcode portion.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tongoc Tran whose telephone number is (703) 305-7690. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory A. Morse can be reached on (703) 308-4789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner: Tongoc Tran
Art Unit: 2134

TT
March 17, 2004


MATTHEW SMITHERS
PRIMARY EXAMINER
Art Unit 2137

Application/Control Number: 09/400,986

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